Gateway

Volume 4
Number 11
February 19, 1988

The ARRL Packet-Radio Newsletter

70-CM, 23-CM AND 33-CM BAND PLANS ADOPTED

At their January meeting, the ARRL Board of Directors voted to adopt the packet-radio frequency recommendations of the ARRL Committee on Amateur Radio Digital Communications for the 70-cm and 23-cm bands. Also, the Digital Committee's recommendations for the 33-cm band were adopted as interim guidelines for packet radio frequencies pending conclusion of a study by the Membership Services Committee on revising the current interim 33-cm band plan.

On 70-cm (420-450 MHz), the Digital Committee recommended the following frequencies, if they are available in a given area:

o 100 kHz-wide channels at 430.05, 430.15, 430.25, 430.35, 430.45, 430.55, 430.65, 430.85, and 430.95 MHz. (430.75 MHz is not recommended to minimize interference to/from distant ATV aural carriers.)

o 25 kHz-wide channels at 440.975, 441.000, 441.025, 441.050, and 441.075 MHz plus an additional narrow-band channel at 431.025 MHz which could serve as a buffer for the wide-band packet radio channels listed above.

On 23 centimeters, the recommended frequencies are:

o 2 MHz-wide channels at 1249.0, 1251.0, and 1298.0 MHz.

o 100 kHz-wide channels at 1299.05, 1299.15, 1299.25, 1299.35, 1299.45, 1299.55, 1299.65, 1299.75, 1299.85 and 1299.95 MHz.

o 25 kHz-wide channels at 1294.025, 1294.050, 1294.075, 1294.100, 1294.125, 1294.150 and 1294.175 MHz. 1294.100 MHz is designated the 23-cm national packet radio calling frequency. (These frequencies are available to Novice operators.)

On 33-cm (902-928 MHz), the recommended interim packet radio band plan allocates two 3 MHz-wide channels (to accommodate 1.5 Mbit/s links) with 10.7-MHz spacing. This allocation may be accomplished with channels at 903-906 and 914-917 MHz.

In another packet radio matter, the Board of Directors has asked the Digital Committee to prepare draft rule changes for Part 97 to facilitate HF packet radio, particularly with reference to the experiments being conducted currently under Special Temporary Authorization (the HF automatic message forwarding PBBS network).

OSCAR 10 OFF THE AIR

AMSAT-OSCAR 10 (AO-10) has been showing symptoms of insufficient power production during the past several days. There have been reports of the general beacon and transponder FMing and of the beacons and transponder operating in random states. As a result, AO-10 has been removed from service. All user access should stop immediately. AO-10 may be back in service in a few months.

from AMSAT NA News Service (ANS)

ROBOT 6-METER METSCAT STATION

A robot 6-meter packet-radio meteor scatter (METSCAT) station was on the air in central Iowa during the January 23-25 ARRL VHF Sweepstakes. Robot QSO functions were provided by SAREX 2 TNC software developed by Howard Goldstein, N2WX, as part of the project headed by Tom Clark, W3IWI, to fly packet-radio capabilities in a space shuttle. In the future, METSCAT operation is planned for grid square DXpeditions during June and September ARRL VHF contests. It is not known if the robot station won the Iowa Section Award!

For further information concerning these events, contact Ralph Wallio, WØRPK, at 1250 Highway G-24, Indianola, IA 50125 or @ WAØJFS-1.

from The ARRL Letter

DIGIPEATER FREQUENCY COORDINATION... YOUR INPUT IS WANTED!

The ARRL Committee on Amateur Radio Digital Communications is studying whether packet-radio digipeaters should be sanctioned or coordinated by local frequency coordination councils and the Digital Committee is soliciting comments from packeteers concerning how digipeater frequency coordination does work, does not work or ought to work in their area.

If the Digital Committee determines that digipeaters should be sanctioned or coordinated, the Digital Committee will develop suggested or recommended guidelines for use by local frequency coordinators to sanction or coordinate such digipeaters.

Besides packeteers, the Digital Committee is also seeking input from the VHF Repeater Advisory Committee (VRAC) and the VHF-UHF Advisory Committee (VUAC). Your comments on this matter should be sent to Chairman, ARRL Committee on Amateur Radio Digital Communication, ARRL headquarters, as soon as possible. This study is

being undertaken as a result of the ARRL Board of Directors meeting last month.

PHASE-3C LAUNCH EFFORTS CONTINUE

Momentum is increasing on several fronts leading to a launch of AMSAT's Phase 3C spacecraft in late spring. While the actual launch date has apparently slipped a month into late May or early June, preparations to support the launch activities are proceeding well. These support activities include planning for the launch support team from AMSAT NA and AMSAT DL in Kourou and launch activity coverage by the AMSAT Launch Information Network Service.

AMSAT NA's launch support team met recently in Boulder, Colorado to map out plans for their activity in Kourou. Together with the AMSAT DL team, they will accomplish the final preparations on the Phase 3C satellite after it has arrived at the Kourou launch site of the European Space Agency. They will apply thermal blankets, install the antennas, fuel the spacecraft and integrate it with the SPELDA, the large container which sits atop the Ariane 4 launcher to support and contain the payload.

After integration, a minimum support team will remain on site to monitor the spacecraft telemetry sent through the umbilical to the monitoring facility. A 24-hour watch team will assure that all telemetry values remain within tolerance. This watch will continue to launch.

Major launch-related activities will be broadcast on a worldwide ALINS prior to, during and after the launch. Local repeater groups are encouraged to rebroadcast Phase 3C ALINS traffic. Special landline ports will be available for repeater operators to patch into for live launch coverage. Additional details regarding frequencies and schedules of the various nets will be announced as soon as the schedules are firmed. Interested parties should contact Ralph Wallio, WØRPK, at 1250 Highway G-24, Indianola, IA 50125.

With activity levels increasing on many fronts, AMSAT headquarters is encouraging all its Area Coordinators and members to take an active part in helping make Phase 3C a success in terms of membership as well. It is especially important to promote new membership now since launch preparations and related expenses tax AMSAT's budget. New and renewing members are urgently needed to help offset rising expenses. AMSAT's financial managers advise that it is certain a cutback in services will be necessary if membership and donation trends remain below necessary levels. Donations are always welcomed and may be tax-deductible.

from AMSAT NA News Service (ANS)

LETTER FROM LIBERIA

I would like to give you an update on packet-radio activity in Liberia.

We presently have five active packeteers in Liberia: Reinhard, EL2BB, Mark, EL5G, Lee, EL2FE, Bassam, EL2BN, and myself. I sent off for WB4APR's PBBS software and Reinhard has it on line 24 hours a day on 145.5 MHz. We find that it is perfect for our low volume of activity.

Mark and I have KAMs and are on HF, as well as on VHF. Mark is a missionary doctor located in a remote village in the interior of Liberia (he has a solar powered station) and we regularly work 40-meter packet radio. He also gateways through me to the VHF PBBS. We are active on other HF bands, but we find that 20 meters is practically useless because of QRM. HF packet radio really needs to spread out! Fifteen meters is pretty good and 10 meters should be even better when it starts humming.

As an interesting sidelight, Reinhard, Mark and I have been working with the Liberia Rural Communications Network, a series of low power AM broadcast stations, to develop an HF, AX.25 packet radio based narrative data network. This is an excellent example of how amateur experimentation and development makes a real contribution to the state of the art. It is particularly significant that this new technology is being applied in the Third World where low cost is a must.

That is the word on packet radio in Liberia. I am on my way back to 6-land, so I regret that I will no longer be involved in Liberia's packet radio infancy. As with all amateur modes, this is a great place to be a ham!

One last thing, please pass the word that EL is active on packet radio. I have seen several lists in the last few months that did not mention us.

from Jim DeLoach EL2GA/KB6EH

COLOR COMPUTER TERMINAL SOFTWARE

Two new versions of the Radio Shack/Tandy Color Computer packet radio terminal program, COCOPACT, are now available. Version 2.1 is designed for use with the Deluxe RS-232-C Pak, while version 5.0 is for use with the computer's built-in four-pin serial port. Extended Color BASIC and 64-kbyte RAM are required for either version.

The two programs share many features including true split-screen operation with 11 receive lines and four transmit lines, a 46,000+ character buffer, the ability to load any kind of file from disk or tape, recognition of the ASCII bell character <CTRL-G> on receive, a disk command menu, on-screen stream or channel indicator for multiple connection operation and a screen hold key.

COCOPACT's buffer includes an editor with insert, delete and change character functions. Operations with the buffer allow the user to transmit, print or save the entire 46,000-character buffer or a selected block of the buffer to disk in ASCII format. Typical save time for 10 kbytes of data is approximately 20 seconds with VERIFY ON. Typical load time for a 10-kbyte file is 10 seconds or approximately one second for each 1000 bytes of data. Tape operations do not support block commands and are limited to the first 18 kbytes of the buffer.

Both versions have on-screen status indicators while in the terminal mode for the buffer open/close status and for the screen hold status.

The buffer can be easily toggled open or closed while in the terminal mode.

Version 5.0 provides menu selectable 300 or 1200 baud operation. When transmitting the buffer to the TNC, hardware flow control is supported with proper connection of the serial cable.

Version 2.1 has several additional features. Most significant of these are real time printer echo of incoming data with an additional indicator to show printer on/off status, machine language format file receiving and saving to disk (disk version only), selectable 300, 1200, 2400, 4800 or 9600 baud terminal operation and menu-selectable word length, parity and number of stop bits. Version 2.1 also supports full hardware flow control and allows the user to transmit a file directly from disk without the need to load it into the buffer first. This version also allows user-definable defaults for many operational parameters.

Each version of the program is $19.95 plus $2 for shipping and handling. Specify disk or tape version and serial printer port or RS-232-C Pak version. Note that tape and disk versions will only work on the specified system. If you wish to order two versions of the program (a disk and a tape version or a serial printer port and RS-232-C Pak version), the second version is available for $5. (This discount does not apply to purchases of two copies of the same version.) Upgrades from one version to another are also available for $5 plus $2 for shipping and handling.

To order, send a check or money order to Monty Haley, WJ5W, Rt.1, Box 150-A, Evening Shade, AR 72532.

OBTAINING TNC 2 VERSION 1.1.5 CODE

A number of folks have asked how to obtain the 1.1.5 TNC 2 code from the Tucson Amateur Packet Radio Corporation (TAPR, PO Box 22888, Tucson, AZ 85734, telephone 602-746-1166). Blank EPROMs (27256) cost $10, although you are encouraged to send in your own. If you send in your own EPROMs, include $2 for programming costs plus a prepaid return mailer. If you choose to buy the EPROMs from TAPR, a mailer and the postage are included in the purchase price of the blank EPROM.

TNC 2 Version 1.1.5 (like 1.1.4) requires 32-kbyte RAM in your TNC 2. If you require RAM, chips are available for a limited time from TAPR for $20 postpaid.

from Dave Toth, VE3GYQ, for TAPR via CompuServe's HamNet

WHAT IS AN LAN?

There has been much written and spoken about LANs in amateur packet radio. Just what is an LAN anyway and how is one "built" and maintained?

The initials stand for Local Area Network and the nomenclature is drawn from the commercial networking environment. By definition, an LAN is "..a communication system that connects devices within a constrained area..." In the amateur packet radio world, the term and concept of LAN has been abused and misused. The true implementation LANs in the amateur packet radio should be done exactly as the definition proclaims... a system that operates within a constrained area or more precisely, on frequencies that are selected on a noninterference, non-adjacent criteria. These LANs should then be connected to each other by some other Wide Area Network.

This should not be something new. It is a theme that has been suggested for quite some time and implemented in various areas with great success. Why is it then that we still see "authoritative" coordinating bodies still proclaiming certain frequencies as LANs and then issuing maps detailing the LAN coverage from Maine to Maryland? That is certainly not a constrained area, nor is it a nonadjacent assignment of frequencies!

I am speaking of the recent proclamation of 145.05 as an LAN, supported by a detailed map of half the East Coast. The majority of our PBBS forwarding still takes place on 145.01 MHz with UHF backbones slowly emerging. There is still the overpowering need for local implementation of LANs, but selecting a frequency such as 145.05 MHz as an LAN is a bit ludicrous. In many sections of the East Coast, 145.05 MHz emerged as a secondary Wide Area Network. It has wide coverage digipeaters, NET/ROMs, COSI-switches, high volume PBBS traffic, uucp gateways and a couple of dead cats for good measure. If the coordinating bodies want to really do some good then they should take into account the network topologies involved, the activity of the various PBBSs and the overall goal of the area in question. Declaring 145.05 MHz as an LAN defies description. Next someone will claim 145.01 MHz as an LAN as well!

Folks, there are plenty of frequencies to be shared on a nonadjacent, noninterference basis. Let us keep the Wide Area Networks in place, improve the backbones, customize the links and the coverage areas of the existing systems. Multiport the high volume PBBSs to maintain good user activity. Support your system providers and help whenever and wherever you can to promote, not hinder, the advance and growth of this art of our hobby.

from Tom Teel, KB3UD @18013

220-BBS Port for Novices

WA2EXE-4 Woodside, NYC, BBS now has open and running a port on 223.420 MHz for Novices.

from Bob Clayton, WA2EXE

BACK ISSUES OF GATEWAY ARE AVAILABLE

All back issues of Gateway are available from ARRL headquarters for $.50 per issue postpaid. When ordering a back issue, request it by its volume and number (for example, "Volume 4, Number 11") or by its issue date (for example, "February 19, 1988").

Also, all of the issues of Gateway that were published in its first year (Volume 1, Numbers 1-25) are available in one volume along with the papers presented at the first four ARRL Amateur

Radio Computer Networking Conferences for $18 plus $2.50 for shipping and handling (order ARRL publication #0224).

GATEWAY CONTRIBUTIONS

Submissions for publication in Gateway are welcome. You may submit material via the US mail to:

Gateway
Stan Horzepa, WA1LOU
75 Kreger Drive
Wolcott, CT 06716-2702

or electronically, via CompuServe to user ID 70645,247. Via telephone, your editor can be reached at 203-879-1348 on evenings and weekends, and he can switch a modem on line to receive text at 300, 1200, or 2400 bauds.

REPRODUCTION OF GATEWAY MATERIAL

Material may be excerpted from Gateway without prior permission, provided that the original contributor is credited and Gateway is identified as the source.

Gateway: The ARRL Packet Radio Newsletter is published by the:

American Radio Relay League
225 Main Street
Newington, CT 06111

Stan Horzepa, WA1LOU
Editor

Larry E. Price, W4RA
President

David Sumner, K1ZZ
Executive Vice President

Subscriptions are available to ARRL members and nonmembers, at the following rates:

For 25 issues of Gateway:
In the US
ARRL Member $6.00
Nonmember $9.00
In the US, Canada and Mexico by First Class mail
ARRL Member $11.00
Nonmember $14.00
Elsewhere by Airmail
ARRL Member $14.00
Nonmember $17.00

Prices are subject to change without notice. Remittance must be in US funds, and checks must be drawn on a bank in the US.

Gateway: The ARRL
Packet Radio Newsletter
American Radio Relay League
225 Main St.
Newington, CT 06111

Nonprofit Organization
U.S. Postage
PAID
Hartford, Conn.
Permit No. 2929